CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: March 14, 2014

TO: Kristin Hart, Permit Section Chief and Dan Schramm, Southeast Regional Manager

FROM: Kendra Fisher, Bureau of Legal Services

SUBJECT: Interpretation of NR 417.07(2)(b), Wis. Adm. Code Sulfur Dioxide limit and Impact on USG Interiors Operation Permit

Background:

In the operation permit for USG Interiors (permit 265006830-P01), permit condition I.B.3.a.(1) limits sulfur dioxide emissions from the cupola to not more than 5.5 pounds of sulfur dioxide per million BTU heat input. A footnote for this limit states: "The heat input rating of the cupola is 33.21 mmBtu/hr, which equates to a sulfur dioxide emission limitation of 182.66 lb/hr. This emission limitation applies only to the fuel burned (i.e. coke, natural gas), and does not include raw materials (slag, brick chips, etc.) added to the cupola." This permit limit stems from a sulfur dioxide (SO_2) administrative code requirement found at s. NR 417.07(2)(b), Wis. Adm. Code.

As a result of a recent EPA lead compliance inspection at USG Interiors, staff at EPA Region 5 inquired regarding WDNR's interpretation of the SO_2 limit found at s. NR 417.07(2)(b), Wis. Adm. Code.

Question:

EPA would like to know whether WDNR interprets "may not emit from any stack more than 5.5 pounds of sulfur dioxide per million Btu heat input" to include SO_2 emissions from any raw material used, or to only include SO_2 emissions from the fuel used, when determining whether the 5.5 pounds of SO_2 per million Btu heat input is being met. Could you please provide us with your interpretation?

Analysis of s. NR 417.05(2)(b), Wis. Adm. Code:

s. NR 417.05, Wis. Adm. Code contains the following SO_2 emission limits for existing sources:

> "(2) EMISSION LIMITS FOR EXISTING SOURCES. Except as provided under sub. (5) or (8), no person may cause, allow or permit sulfur dioxide to be emitted to the ambient air from any direct source constructed on or before February 1, 1985, in amounts greater than those specified in this subsection.
>
> (b) Any steam generating unit or other fuel burning equipment firing solid fossil fuel at a facility which has a total heat input capacity on solid fossil fuel of less than 250 million Btu per hour may not emit *from any stack* more than 5.5 pounds of sulfur dioxide per million Btu heat input." (emphasis added)

The limit at s. NR 417.05(2)(b), Wis. Adm. Code was original promulgated in 1985 under different numbering (see Board Order A-24-84 found at [HYPERLINK "https://docs.legis.wisconsin.gov/code/archive/1985/349b/rules/register_349_cr_84_83_ch_nr_154.pdf"]) The original citation for this limit was s. NR 154.12(11)(b)2., Wis. Adm. Code and the limit read as follows:

> "2. Any steam generating unit or other fuel burning equipment firing solid fossil fuel at a facility which has a total heat input capacity on solid fossil fuel of less than 250 million BTU per hour may not emit more than 5.5 pounds of sulfur dioxide per million BTU heat input *from the fuel burning equipment to any stack.*" (emphasis added)

In reviewing the history and public input to the original rule promulgated under A-24-84, several details on intent become clear. The Department summarized the purpose of the rule as follows:

> "The creation of Section NR 154.12(11), Wis. Adm. Code sets categorical emission limits for solid fossil fuels and residual oil burning equipment and for processes in pulp mills and kraft mills, and for petroleum refineries. The rule ensures attainment with the ambient air quality standards for sources of sulfur dioxide in the State of Wisconsin"

Throughout the background documents and responses to comments received, the Department consistently refers to the 5.5 lbs SO_2/mmBTU limit, and the corresponding 3.2 lbs SO_2/mmBTU limit for facilities with a heat input capacity of greater than 250 million BTU per hour, in the context of the fuel used. The numbers chosen for the fuel burning limits were based on what limits on solid fossil fuel for coal fired boilers were considered reasonable at the time of the rule. This is clearly delineated in the response to comment 50, found on page 22 of the August 28, 1984 memorandum from Donald Theiler to C.D. Besadny.

> "The 5.5 lb SO_2 /mmBTU limit was installed in the rule in order to prevent very high sulfur coals from being routinely burned in Wisconsin. This SO_2/mmBTU limit should not significantly affect any industry in Wisconsin. It has been determined by Department staff that coal supplies to the meet the 5.5 lb SO_2/mmBTU limit are abundant and available at very reasonable costs. The staff feels that unless the use of fuels cleaner than 5.5 lb SO_2/mmBTU would present an unreasonable burden on the facility this type of coals should be routinely used in Wisconsin."

See also response to comment 11, August 28, 1984 memorandum from Donald Theiler to C.D. Besadny, page 9.

Additionally, the original proposed language for the emission limits (3.2 lb SO_2/mmBTU and 5.5 lbs SO_2 mmBTU respectively) did not contain a reference to the stack. This was added as a result of comments received to address the situation of more than one boiler directed to a single stack. (*see* response to comment 14, August 28, 1984 memorandum from Donald Theiler to C.D. Besadny, page 9). The Department specifically notes in this response that they were "...of the opinion that the limits for these sources should be met by any fuel burning equipment and thus a stack limit is not warranted." (*id.*)

Considering the purpose of the rule and the background documents, it is clear that Wisconsin only intended the fuel burning emissions, and not any process related emissions, to be subject to the 5.5 lb SO_2/mmBTU emission limit. This is reflected throughout the background discussion of the rule and also in the fact that there is one set of limits for emissions from the fuel and a different set of limits for process related emissions in the current chapter NR 417, Wis. Adm. Code.

Impact of Analysis on USG Interiors Permit

For all of the reasons described above, Wisconsin believes the footnote currently found in condition I.B.3.a.(1) of the USG Interiors 265006830-P01 permit is appropriate. The Department agrees that sulfur dioxide emissions would also be generated from the melting of the raw materials (slag, brick chips, etc.) added to the cupola. In the draft renewal of the operation permit, the Department modeled the USG Interiors facility against the SO_2 NAAQS and the facility passed modeling.